20749

3/103/61/02/2003/204/608 8116/8209

A theory of one-type coupled .

4) The cross back couplings are the inner and the direct ones the outer couplings $W_{1-} = \frac{W_1 - W_1 L_1 L_2 - L_1}{1 + W_1 L_2}$ (17).

 $W_{1+} = \frac{W_1 + (n-1)L_1 - (n-1)W_1L_2}{1 - (n-1)W_1L_2}$ (8) Lydenotes the transfer

function of cross back coupling, b. that of direct cross coupling. The

cross occuplings forming between identica, channels as a consequence of a difference between the output coordinates of the identical units, are termed synchronizing couplings (Fig. 1) Direct. Fig. 5. Cross back couplings; the synchronizing coupling with a single transfer function is indicated by a circle with a minus sign). The author shows that the synchronizing cross couplings do not affect the averaged motion. The synchronizing cross couplings is applied to those cross couplings that term "averaging" cross couplings is applied to those cross couplings that are formed through the effect of the sum of all input and/or output coordinates of the identical units. It is shown that the averaging cross couplings have no influence upon the relative motion. Fig. 3. In analogy,

Card 7/₩ 8

20749

A theory of one-type coupled

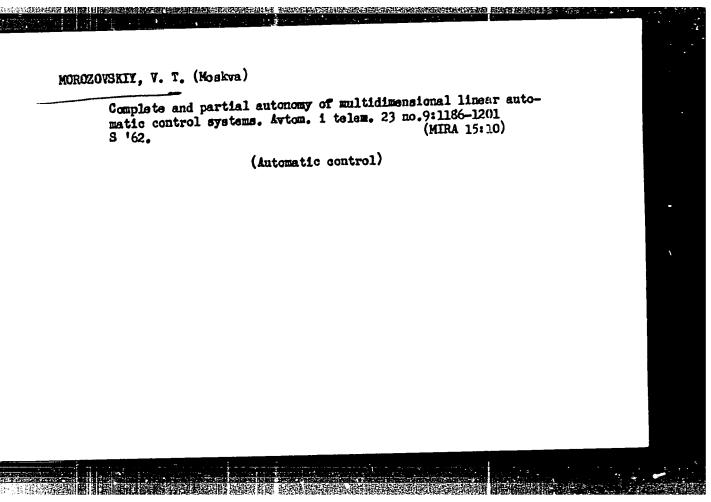
here a circle with plus symbol. If besides plain symmetrical cross couplings also synchronizing and averaging cross couplings appear, it is expedient to reduce all plain cross bouplings to synchronizing and averaging. It is shown that direct as well as cross back couplings may be split into a synchronizing cross back coupling with transfer function -L/n and an averaging cross tack coupling with transfer function (n-1)L. If disturbances appear at the inputs of the identical inits, the equivalent disturbance for the averaged motion is determined from the

formula $q_{ik} = 1/n \sum_{j=1}^{n} q_{ij}$ (32), and that for the relative motion from the formula $q_{i+j-} = q_{i+} + q_{ij}$ (53). There are 's figures and 6 Sovietbloc references.

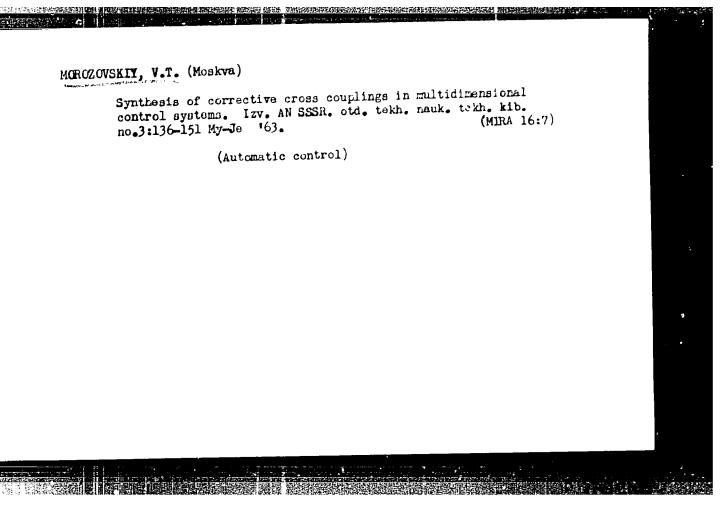
SUBMITTED: April 15, 1960

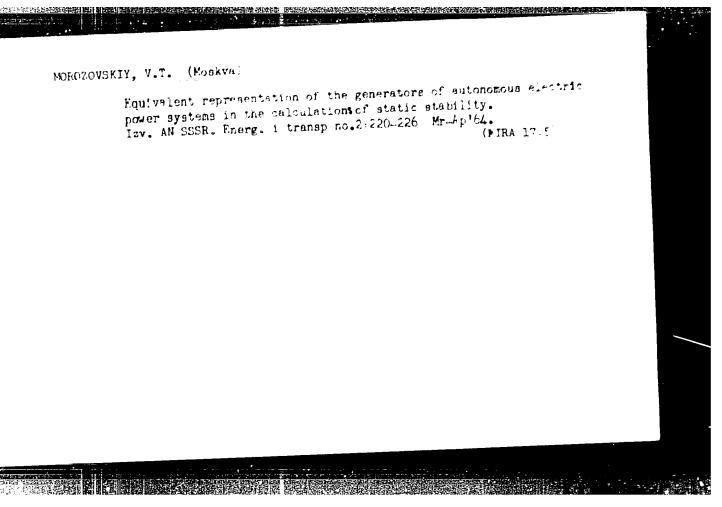
Legend to the Figs and Eqs . By - input. But - output.

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"





MOROZOW, I.K. [Morozov, I.K.]; KIRIUSZOW, A.J.

Versatile automatic control machine. Przegl mech 23 no. 21:627-630
10 N '64.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"

BUBISKI, S.; HOROZOWA, M.

Case of formation of anti-Kell antibodies. Polski tygod. lek. 8 no.5: 187-188 2 Feb 1953. (CLML 24:5)

1. Of the Institute of Microbiology (Head--Prof. L. Hirszfeld, M.D.) of Wroclaw Medical Academy and of the Regional Blood Donor Station (Head--T. Mostowski, M.D.) in Krakow.

MOROZOWSKA, I.

The meteorologic protection of orchards in the United States. p.7.

GAZETA OBSERWATORA. P.I.H.M. Warszawa, Poland. Vol. 12, no. 4, Apr. 1959.

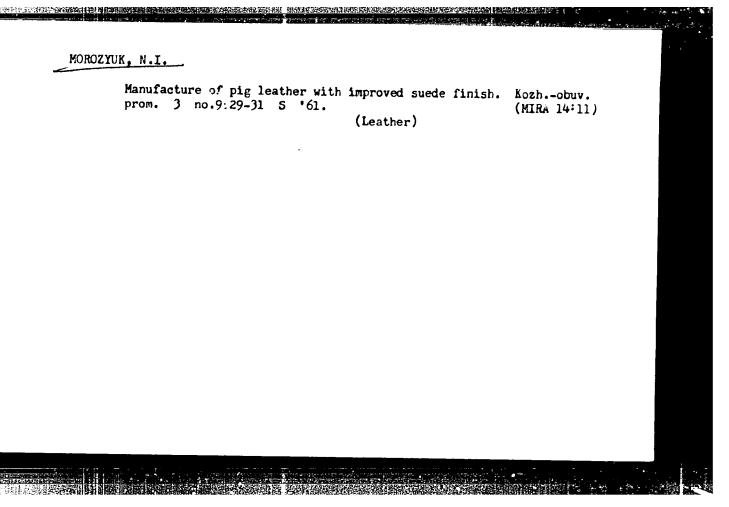
Monthly List of East European Accessions Index (EEAI), LC. Vol. 8, No. 9, September 1959 Uncl.

KHRIPIN, A.G. (Khrypin, A.H.); BRAGINSKIY, M.A. [Brahine'ky', M.A.];

BEREZOVSKAYA, M.G. [Berezovz'ka, M.E.]; SHIROKOY, B.G. [Shyrokov, B.H.); MOROZYUK, M.I.; ROZENBERG, Kh.N.

The ASD-1 unit for drying chrome leather in a dynamic state.

Leh. prom. no.2t21-24 ap-Je*64 (MIRA 10:7)



LIVYY, G.V., kand. tekhn. nauk; KAZARINA, N.N., inzh.; GIL'MAN, B.A., inzh.; FASTOVETS, O.S., inzh.; MOROZYUK, N.I., inzh.; LITVINCV, Jh.I., inzh.; SAGAYDACHNYY, V.G., inzh.; BALAYFV, Ya.V., inzh.; FITSA, A.S., inzh.

Manufacture of leather for lining and accessories from the face split of DOL type pigskins. Kozh.-obuv. prom. 7 no.6: 29-32 Je 165. (MIPA 18:8)

3/194/62/000/006/219/232 D256/D308

AUTHOR:

Morral, Istvan

TITLE:

Transistorized audio-frequency K-C oscillator

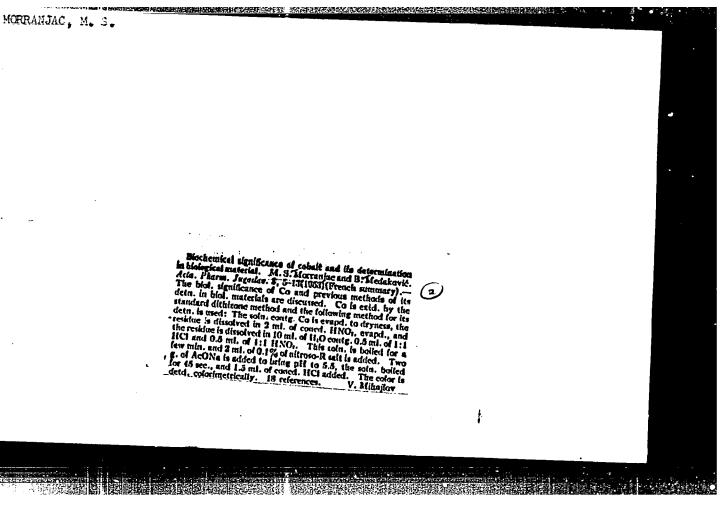
PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-7-271 i (Rádiótechnika, 1961, 11, no. 12, 357-359)

THAT: A brief survey of the possible versions of transistorized audio-frequency oscillators and the difficulties of their realization. The difficulties occur in connection with limiting the amplitude. A description is given of a transistorized.audio-frequency oscillator employing a Wien bridge supplied by a battery of 7 V nominal voltage. The performance of the circuit is satisfactory up to 45°C; frequency range: 20 - 20000 c/s; output voltage: 500 mV. Abstracter's note: Complete translation.

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CIA-RDP86-00513R001135310011-5" **APPROVED FOR RELEASE: 07/12/2001**



APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"

KORREN, L., professor.

The international normalization of auxiliary equipment for fluorescent lamps. Swetotekhnika 3 no.6:8-10 Je '57. (MERA 10:7)

'. Tedsedatel' podkomiteta (MAL. 2. TSentral'naya elektrolimicheskaya lahoratoriya Bel'giyakogo elektrotekhnicheskogo komiteta.

(Fluorescent lamps)

HeRak, M.J.; ModRID, J.F...

Neutron activetion analysis of traces of allegating gold, and indium in supermates from the refining of precious metals.

Crost chem acts 36 no.2167-71 "64.

1. Department of Themistry, Brunel Colorum, London, W. 3, English.
2. Permanent actives: Institute "huder Boskovic", agreb, Crostin Yugoslavia (for Herak).

MORRIS, G.; DEBAKEY, M.E.; CRAWFORD, E.S.; COOLEY, D.A.

Surgical treatment of hypertension in occlusion of the retal vessels.

Vest. khir. 85 no. 8:13-23 Ag '60. (MIRA 14:1)

(HYPERTENSION) (RENAL ARTERY—SURGERY)

RYKOWSKI, Henryk: MORRIS, G., Jr.

[urgical treatment of hypertension caused by stemosia or obstruction of the ronal artory. Pol. tyg. lek. 10 no.24:

R09_902 8 Je '64.

]. 7 Oddzialu Chirurgicznego Universtytatu Raylor Houston

[t. fiedn (kierownik: prof. dr M.E. Le Bakey).

GAVEND_DZIERZYHSKA, Irena, TOWPIK, Josef, KORRIS, Wanda, GUZIKOWSKA, Karia

Level and retention in the blood of domestic procaine penicillin. Polski tygod. lek. 13 no.16:591-596 21 Apr 58

1. (Z Zakladu Antybiotyków P.Z.H.; i z Instytutu Dermatologii i Wnerologii w Warszawie) Adres: Warszawa, ul. Chocimska 24. Zaklad Antybiotykov P.Z.H.

(PENICILLIN, rel. cpds.
procaine penicillin, level & retention in blocd (Pol)

```
CHELNOKOVA, A.A.; HORRISON, Z.N. (Saratov)

Diagnosis of subscrite phlagmon of the stomach. Klin.med. 37 no.11; 119-121 N '59. (MIRA 13:3)

1. Iz kafedry rentgenologii i radiologii (zaveduyushchiy - prof. V.N. Shtern) Saratovskogo meditsinskogo instituta (direktor - dotsent B.A. Hikitin) i pervoy klinicheskoy bol'nitsy imeni V.I. Ienina (glavnyy vrach P.N. Filippenko). (STOMACH diseases) (PHLMCHON diagnosis)
```

MORROVSKIY, N.E.; REGEL!, A. R.

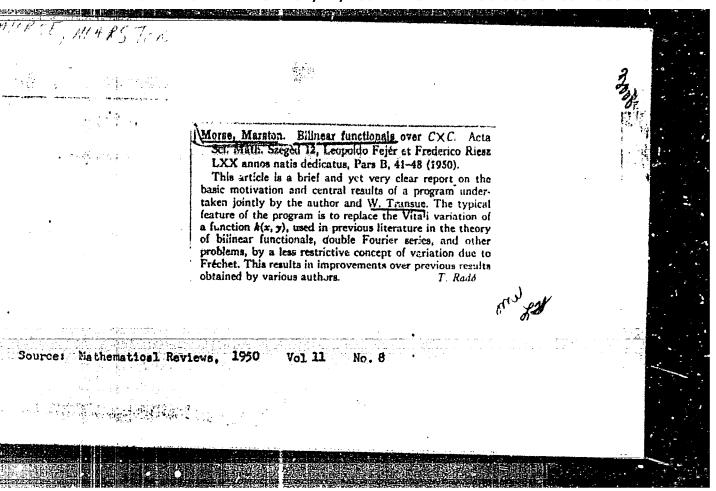
Expansion ("e t)

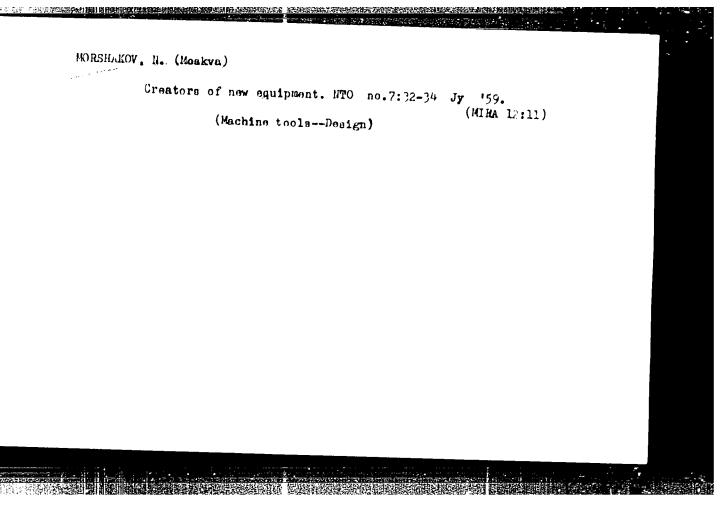
Connection between changes in dendity and electro permeability when melting substances having a diamond-type or zinc blende-type structure. N.F. Morrovskiy and A.H. Regel'. Zhur. tekh. fiz. No 22, 1952.

。 第一章,我们是是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是

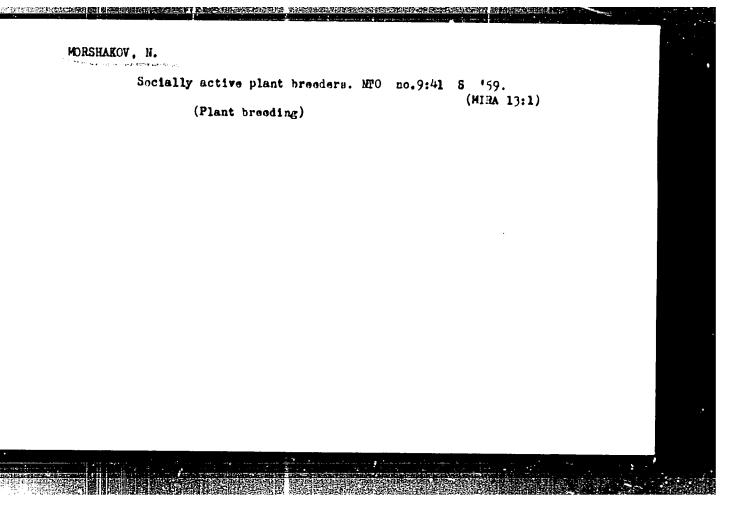
Monthly List of Russian Accessions, Library of Congress, December 1952, Unclassified

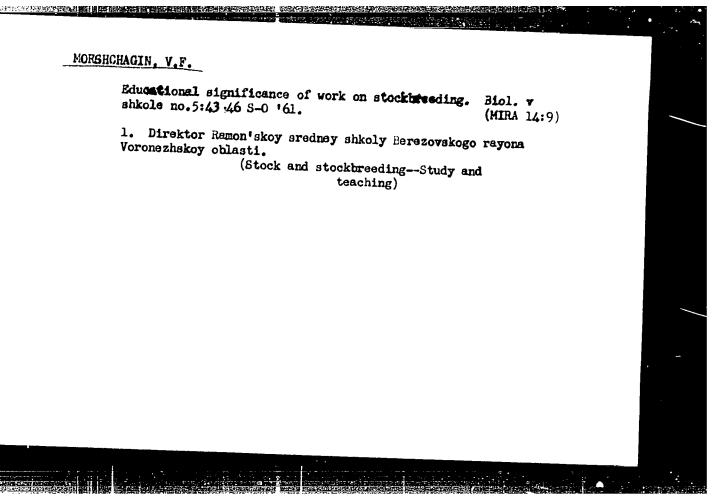
Na -- +-. Morse, Marston, L-S homotopy classes of locally simple curves Ann. Suc Polon. Math. 21 (1948), 236-256 (1949). The concepts of locally simple curve and angular order of a plane curve have been introduced by Morse and Heins [cf. Proc. Nat. Acad. Sci. U S. A. 31, 299-301, 302-306 (1945); these Rev. 7, 57]. The L-S-homotopy classes are defined by admitting only deformations for which the deformed curves are in a sense uniformly locally simple. The present paper is concerned with locally simple curves on a closed two-dimensional orientable manifold of finite genus. The author extends the definition of angular order to the case under consideration, there being three essentially different cases according as S is a sphere, a torus, or a surface of genus at least 2. A set Ms of curves on S is a model for the L-S-homotopy classes if no two members of Ms are L-S-homotopic and any sensed locally simple curve is L-S-honotopic to some member of Ms. Models for the L-S-homotopy classes are displayed for all cases, as well as topological invariants numerically characteristic of these classes. In the case of a sphere, an arbitrary sensed simple closed curve and the same curve taken twice form a model, and the angular order is, correspondingly, 1 or 2. Corresponding but more complex results are obtained in the other G. A. Hedlund (New Haven, Conn.). Cases. Sourcer Mathematical Reviews, 1750 Vol 11 No. 2





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MORSHCHAKOV, N.A.

Saving of 350,000 roubles during one year on diesel oil.
Elek.i tepl.tiaga 3 no.8:24 Ag '59. (MIRA 12:12)

1. Starshiy master profilakticheskikh osmotrov kazakhskoy dorogi.

(Diesel locomotives)

STEPAHOVA, Ye.V.; BADANYAN, A.A.; MORSHCHAKOV, Yu., REITHAN, I.M., redaktor; SVYATITSKAYA, K.P., redaktor; POLOSINA, R.S., tekhaicheskiy redaktor.

。 第14 章 1950年1950年1951年 **1911年 1911年 1911**

[Catalog of spare parts for oil well drilling equipment] Katalog: Zapasnye chasti k neftienosu oborudovaniu. Koskva, Gos.nauchnotekhnicheskoe isd-vo neftienoi i gornotoplivnoi lit-ry. Pt.2.
[Equipment for oil well drilling] Oborudovanie dlia bureniia skvashin. Section 3. [Rotors of the closed type] Rotory sakrytogo tipa. No.3. "Bakinets" R560-Sh8. 1956.15 p. Section 12. [Screw preventers] Preventery plashechnye. No.1. PPM-8. 1956. 15 p.; No.2. PPM-12. 1956. 16 p.; No.3. PFM-16. 1956. 16 p. (MLRA 9:5)

1.Soyusnefteburmashremont. Gosudarstvennyy soyusnyy trest. (Oil well drilling) (Bering machinery)

。 "一种企业的证据,我们们的对方,我们们们的对方,就是一种的对方,就是一种的对方,就是一种的对方,就是一种的对方,就是一种的对方,就是一种的对方,就是一种的对方,

MORSHCHIKHIN, Vasiliy Nikolayevich; SUDAKOV, V.V., rad.

[Derivation of the principal mechanical characteristics of concrete under field conditions using radio enjencering techniques] Poluchenie osnovnykh mekhanicheskikh kharakteristik betona radiotekhnicheskimi metodami v proizvodstvennykh uslovijakh. Leningrad, 1964. 28 p. (MIRA 17:11)

MORSHCHIKHIN Vasilix Mikolayeriah RYNIN, Nikolay L'vovich;

SMIRROV-, N.A., prof., red.; PAPIYEV, V.R., red.izd-va;

BELOGURDVA, I.A., tekhn. red.

[Safety engineering in working with radioactive incopes and electronic instruments used in testing building materials and structures] Tekhnika bezopasnosti pri rabote s radioaktivnymi izotopami i elektronnymi priborami, inpol'zuenymi pri ispytanii stroitel'nykh materialov i konstruktsii. Leningra, Leningr. dom nauchno-tekhn. propagandy, 1962. 32 p. (Bibliotechka stroitelia po tekhnika bezopasnosti, no.11)

(MIRA 16:6)

(Radioisotopes—Safety measures)

(Electronic instruments—Safety measures)

(Building materials—Testing)

L'YOYA, I., kand. biol. nauk; SAKOVICH, I., studentha; TIKHONOV, N., kand. biol. nauk; KORSENIKHIMA, S., biolog.

Biological investigation of the growth and development of cucumbers on unshaltered ground. Nauka i pered. op. v sel'khoz. 8 no.6148-51 Je '58.

(MIRA 11:6)

1. Koskovskiy ordena Lenina Gosudarstvennyy universitet imeni M.V. Lomonosova.

(Gucumbers)

BRADLE, V.A.; hORSHCHIKOV, V.D., red.

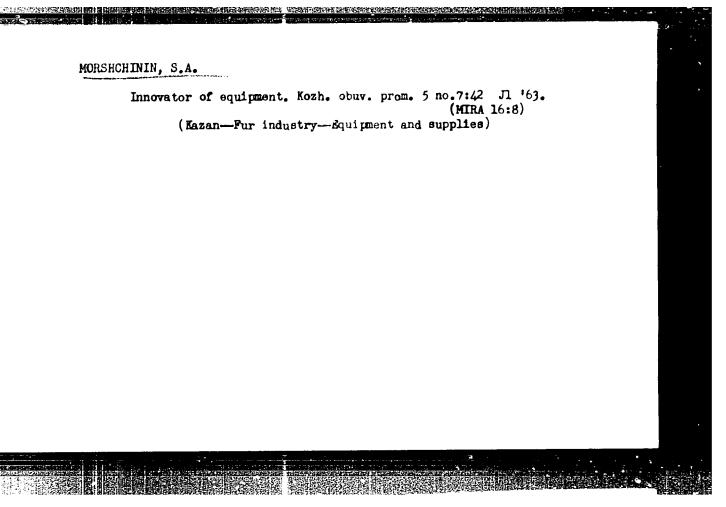
[For trade-union activist workers about the innovators of agricultural production] Profaktivu - o novatorakh sel'sko-khoziaistvennogo proizvodstva. Moskva, Profizdat, 1964.
67 p. (Bibliotechka sel'skogo profsoiuznogo aktivista, no.1(25))

(MIRA 17:11)

AYZENSHTADF, M.G., glavnyy inshener; KOESHCHININ, I.P., glavnyy mekhanik.

Calendering parchment. Bun.pron. 22 no.9:30-31 S '53. (MLBA 6:8)

1. Sibirskaya bumashnaya fabrika (for Ayzenshtadt). (Parchment)



R USSR/Diseases of Farm Animals. General Problems.

Abs Jour: Ref Zhur-Diol., No 15, 1958, 69457.

Author : Morshchinin, V.P.

Inst

Title

: The Use of Acidophilic-Broth Culture for Prophylactic

and Therapeutic Purposes.

Crig Pub: Zhivotnovodstvo, 1957, No 10, 87-88.

Abstract: No abstract.

card : 1/1

5

MORSHCHININ, V.P.

Persist in introducing progressive practices in livestock farming.

Zhivotnovodstvo 20 no.5:90 Ky 158. (MIRA 11:5)

l. Starshiy vetvrach Vetotdela Chelyabinskogo oblastnogo upravleniya sel'skogo knozyaystva. (Chelyabinsk Province—Artificial insemination)

Use of an acidophilus broth culture in veterinary medicine. Veterinariia 35 no.4:66-67 Ap '58. (MIRA 11:3)

1. Glavnyy vetvrach Veterinarnogo otdela Chelyabinskogo oblastnogo upravleniya sel'skogo khosyaystva.

(Veterinary materia medica and pharmacy)

1.	MORSHIM	٨	77

- 2. USSR (600)
- 4. Cranks and Crankshafts
- 7. Technology for measuring number of revolutions of tractor engine crankshafts, Dost. sel. khoz., No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

KORSHIN, Aleksandr Vasil'yevich, kand.tekhn.nauk; ZAGORSKIY, G., red.;

FAVLOVA, S., tekhn.red.

[Hew to determine tractor defects without dismantling]

Kak opredelit' neispravnosti traktorov bez razberki. Foskva,

Hosk, rabochii, 1961. 23 p.

(MIRA 15;2)

(Tractors--Maintenance and repair)

ARDASHEV, Gavriil Romanovich; HAZAROV, I.V.; MIKHAYLOV, I.W.; MORSHIN.

A.V.; POLOTSKIY, I.V.; HUDENKO, A.I.; SITNIKOV, A.P.; SPERAESOV, W.W.;
KRTUKOV, V.L., red.; DEIKVA, V.M., tekhn.red.

[Mointenance of tractors and agricultural mochinory] Tekhnicheskoe obalushivanie traktorov i sel'skokhozieistvennykh mashin. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p.

(MIRA 14:4)

(Tractors-Meintenance and repair)

(Agricultural machinery-Maintenance and repair)

上海公共党队的制制,制度制造工程的企业的企业,并不是国际工程的政治的主义社会,他们还是这种关系,他们还是这种政治的政治,他们是对外的工程的对外,但是国际工程的

MIKHAYLOV, Igor' Nikolayevich; MORSHIN, Aleksandr Vasil'yevich;
ZACORSKIY, G., red.; POKHLERKINA, M., tekhn. red.

[Low-temperature catalytic conversions of hydrocarbons]
Nizkotemperaturnye kataliticheskie prevreshcheniia uglovodoredov. Leningrad, 1962. 166 p. (MIRA 15:11)

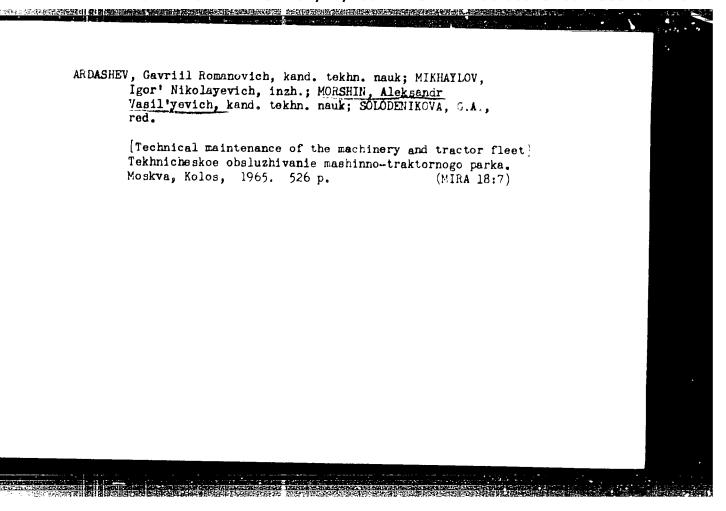
1. Leningrad. Universitet.

(Catalysis) (Hydrocarbons)

YESKIN, V., traktorist (der.V.Berezovka, Ielovskiy rayon, Permskaya oblast');
ZHDANOVSKIY, N., prof., doktor tekhn.nauk; MORSHIN, A., kand.tekhn.
nauk

Determination of the power rating of an engine. Sel'.mekh.
no.3:35-37 '62. (MIRA 15:3)

(Tractors—Engines)



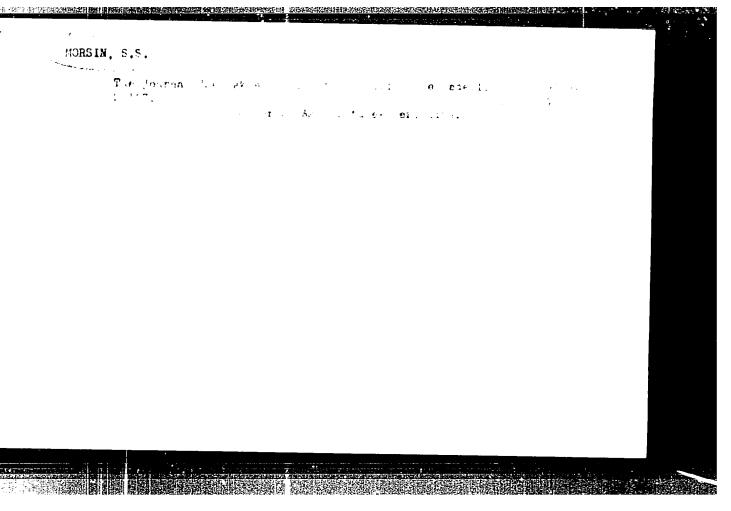
SMIRNOV, Aleksandr Vasil'yevich; BELORUCHEV, Lev Vladimirovich; KAPLUN, Ruvim Iosifovich; MORSHTEYN, Isaak Mikhaylovich; TSUKANOV, Vladimir Andreyevich; NACHINKOV, A.D., red.

[Nitriding passivating steels with the use of carbon tetra-chloride] Azotirovanie passiviruiuslichikhsia stalei s primeneniem chetyrekhkhloristogo ugleroda. Leningrad, 1964. 20 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Peredovoi proizvodstvennyi opyt. Seriia: Metallovedenie i termicheskaia obrabotka, no.3) (MIRA 17:7)

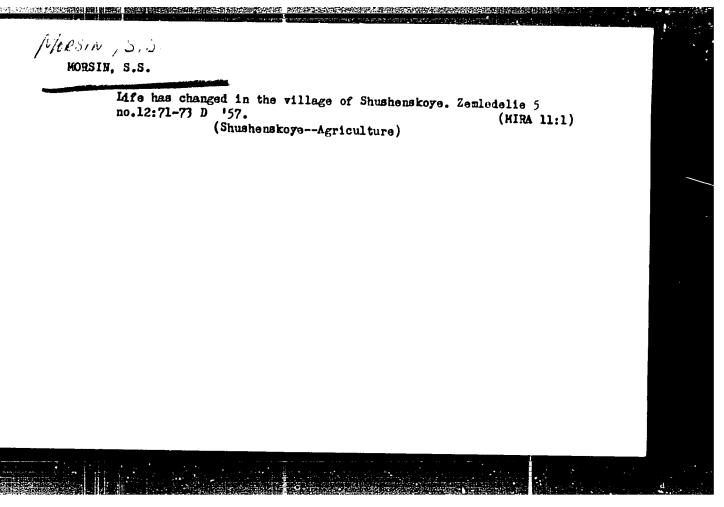
Morshteyn, O.B.

Production of keramzit concrete beams of bridge seats. Transp. stroi. 13 no.10:33-37 0 63. (MIRA 17:8)

1. Glavnyy inzh. Silikatnenskogo zavoda zhelezobetonnykh konstruktsiy.



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MORSIN, Sergey Sergeyevich; SERGEYEVA, V.S., red.; LAPIDUS, M.A., red.; TRUKHINA, O.N., tekhn. red.

[Organization of work on collective farms]Organizatsiia truda v kolkhozakh. Moskva, Sel'khozizdat, 1962. 85 p. (MIRA 16:2)

(Collective farms—Management)

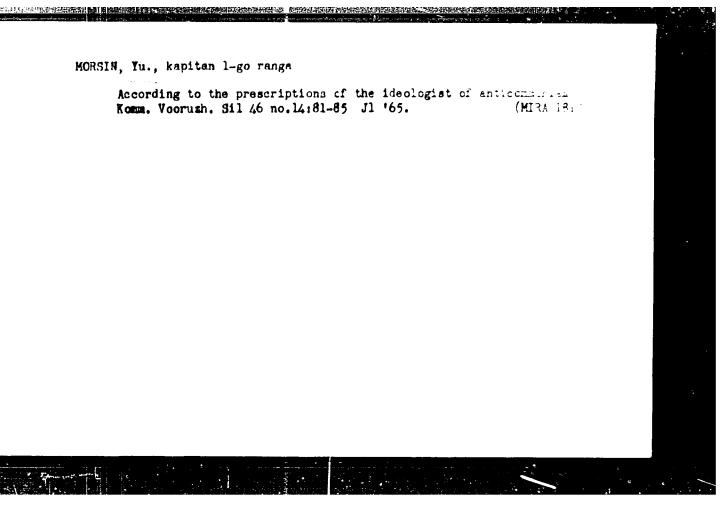
MORSIN. Servey Serveyich; MIKAEL'IAN, T.S., red.; SHESHNEVA, E.A., [Schools for advanced practices in agriculture] Shkoly peredovogo opyta v sel'skom khoziaietva...Moskva, Izd-vo MSKh RSFSR, 1963. 93 p. (MIRA 16:8) 1. Russia (1917- R.S.F.S.R./)Ministerstvo sel'skogo khosyaystva MSFSR. 2. Zamestitel' mechal'nika Upravleniya nauchnykh uchfeshdeniy Ministerstva sel'skogo khosyaystva RSFSR (for Morsin). (Agriculture) (Agricultural education)

BARKOVSKIY, N.D.; CHERNYSHOVA, T.A.; MORSIN, V.I.; VSESVYATSKAYA,
N.V.; MEZHIBORSKAYA, S.B.; MISEYUK, K.A.; BOROZDIN, B., red.;
NADEZHDINA, A., red.; TELEGINA, T., tekhn. red.

[The organization and planning of credit]Organizatsiia i planirovanie kredita. Moskva, Gosfinizdat, 1962. 298 p.

(MIRA 16:3)

(Credit)



CIA-RDP86-00513R001135310011-5 "APPROVED FOR RELEASE: 07/12/2001

AID P - 5507

USSR/Aeronautics - propaganda Subject

Pub. 135 - 24/26 Card 1/1

: Morsin, Yu. M., Major Author

: How the beastly habits of American pilots are cultivated. Title

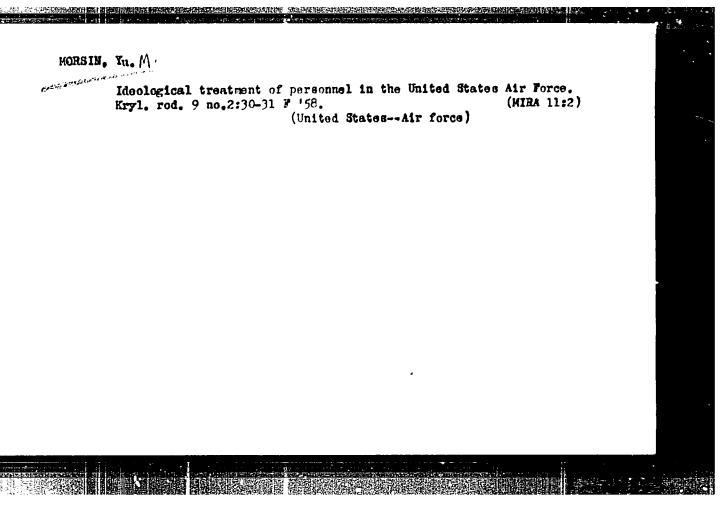
Periodical: Vest. vozd. flota, 3, 85-87, Mr 1957

A slanderous propaganda article written against the United States Air Force. Abstract

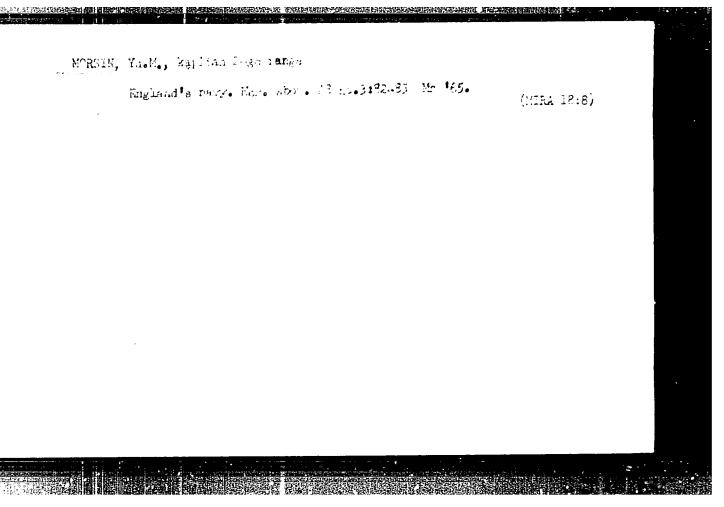
None Institution :

Submitted : No date

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CHURILIN, Nikolay Erastovich; GLINNER, R.G., nauchn. red.; MORSINA, L.A., red.

TO THE PERSON OF THE PERSON OF

[Handbook on the organization and equipment of the technological study room in enterprises for the production of rubber goods; methodological textbook] Rukovodstvo po organizatsii i oborudovaniiu tekhnologicheskogo kabineta na predpriiatiiakh po proizvodstvu rezinovykh izdelii; metodicheskoe posobie. Moskva, Vysshaia shkcla, 1965. 74 p. (MIRA 18:7)

GOTTVAL'D, B. [Gottvald, B.]; MORSKI, Z.; LANG, Z.; SHKOLLOVA, Z. [Skollova, Z.]

New liquids for hydraulic fracturing of layer and the method of locating the fracture. Prace ust naft 18:65-67 '61.

EWT(d)/EWT(m)/FA/T=2/EWP(h)/EWA(w) L 8712-65 ACCESSION NR: AP4005893

AFFTC(a)/APGC(a) 8/0084/63/000/012/0014/0015

AUTHOR: Morskov, Oleg

Yesterday, today, tomorrow

Grazhdenskaya aviatsiya, no. 12, 1963, 14-15

TOPIC TAGS: turboprop helicopter, turbojet helicopter, jet helicopter, helicopter, helicopter future, civil air fleet

ABSTRACT: Article gives a brief history of the Soviet civil air fleet and the career of Nikolay Il'ich Kamov, an aircreft designer. He began his career in 1929 at the age of 22. The Soviet civil air fleet consisted of 10 heavy passenger aircraft. These were the German Junkers Ju-13 six-passenger aircraft. There were no passenger aircraft producers in the Soviet Union at that time. The first helicopter of all Soviet production was flown by test pilot Ivan Mikheyev on 25 September 1929. Soviet civil aviation proceeded forward step by step to the point where Soviet aircraft and helicopters are held in high regard throughout the world. Helicopters are a part of Soviet life today. They should attain an even wider use in the near future in such areas as Siberia, Soviet Central Asia,

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ACCESSION NR: AP4005893

and the Far East. The air speed of these helicopters in the near future will be from 400 to 500 kilometers per hour, owing to the use of turbojet and turboprop engines. Kemov predicts that VOFL aircraft will find ever-increasing application. Crig. art. has: 5 figures.

ASSOCIATION: none

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Card 2/2

ACC NR: AN7002378

SOURCE CODE: UR/9013/67/000/009/0 ./0004

AUTHOR: Morskov. O. (Correspondent of novosti press agency)

。 1975年 - 197

ORG: none

TITLE: Interview with the Minister of Civil Aviation Ye. Loginov

SOURCE: Pravda ukrainy, no. 9, 10 Jan 67, p. 4, cols. 4-7

TOPIC TAGS: civil aviation service, civil aviation status, civil aviation, civil aviation route

ABSTRACT:

The Soviet Minister of Civil Aviation was interviewed on the occasion of the recent air accord with the United States. He stated that Aeroflot fries regularly to 39 countries, and that the length of domestic and international air routes exceeds 500,000 km. Regarding aircrew training, it is basically the same for crews on domestic as well as on international routes. However, crews on international routes must know the characteristics of air movements on their particular routes. In addition, they learn one of the foreign mainly from 20 to 28 years of age, and as a rule have higher education. At present, there are four types of Soviet gas-turbine aircraft on international routes. The principle of their use is the same as on domestic

Card 1/2

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routes. Over distances of 2000 km, the small TU-124 turbojet is used. It flies to the nearest Soviet countries and to certain Scandinavian countries. On routes to 5000 km, such as to Paris and London, use is made of the TU-104. turbojet and the IL-18 turboprop. On transatlantic routes, the 170-seat TU-114 turboprop is used, and it flies nonstop to Cuba, Canada, and India. The latter will be used on the USSR-USA route; however, it will soon be replaced by the 186-seat IL-62 jet. The minister thinks that the future use of such supersonic airliners as the TU-144 will be worthwhile. After stating that Aeroflot is constantly lowering its fares on domestic routes, but cannot do so on foreign flights due to international agreement, the Minister said that the total volume of traffic in 1967 will increase by about 15%, and that this will also be reflected in Aeroflot's international activity; recently 4-5 new foreign routes were opened, and no less will be established in 1967. After saying that many Latin American countries hope to have direct flights to and from the USSR, the Minister said that in the last seven years the number of passengers on the international routes of Acroflot has more than doubled.

SUB CODE: 62/ SUBM DATE: none/ ATD PRESS: 5111

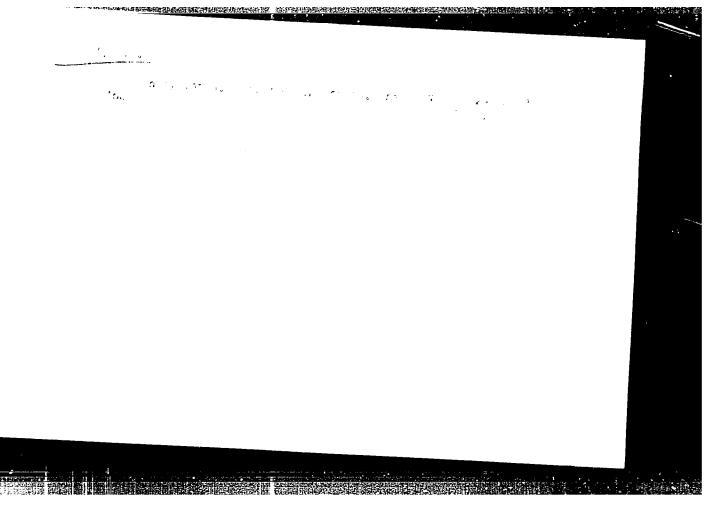
Card 2/2

MALINKOVSKIY, V.V.; KOZLOVA, Ye.D.; MORSKOY, G.I.; KUZNETSOV, G.V.; KASHAYEV, G.T.

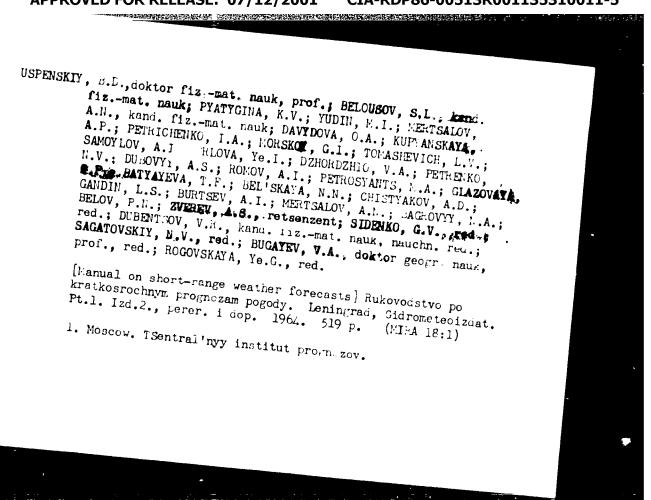
Increasing the yield of wild rose thickets. Trudy VNIVI 8:89-93 (MIRA 14:9)

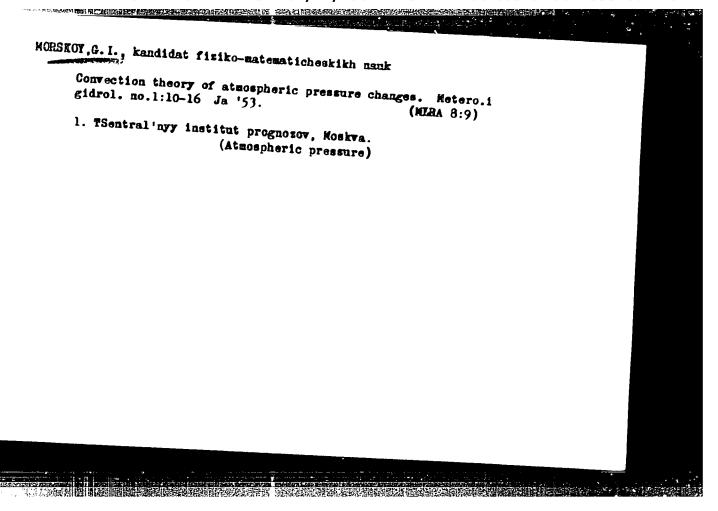
1. Sel'skokhozyaystvennyy otdel Vsesoyuznogo nauchno-issledovatel'-skogo vitaminnogo instituta i Shchelkovskiy i Ufinskiy vitaminnyye zavody.

(Roses)



APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"





MORSKOY, G. I.

"Problem of the Calculation of the Vertical Velocity of Air". Meteorologiya i Gidrologiya, No 1, pp 11-17, 1954.

The article possesses a purely theoretical character. For minimum simplifying assumptions, the author derives an equation for the determination of vertical velocity from the equation of motion and continuity. This equation is an equation in partial derivatives of the first order. It is analyzed under two conditions: (1) Qualitative analysis — The author enumerates and analyzes the influence on vertical currents of seven factors: local variations in vortex, advection of vortex, meridional gardient of Coriolis force, turbulent friction, local variations in density, and vertical gradients of wind velocity and of orography. (2) Evaluation of the orders of magnitude of the various terms — This evaluation, conducted on the basis of identical order of magnitudes of terms of the mentioned equation. A more detailed analysis of the orders of magnitudes which was carried out by M. I. Yudin left part of the equation the decisive role is played by the terms that contain

For one extremely particular example, solutions are given yielding equations in partial derivatives of the first order. (RZhMekh, No 10, 1955)

SO: Sum No 884, 9 Apr 1956

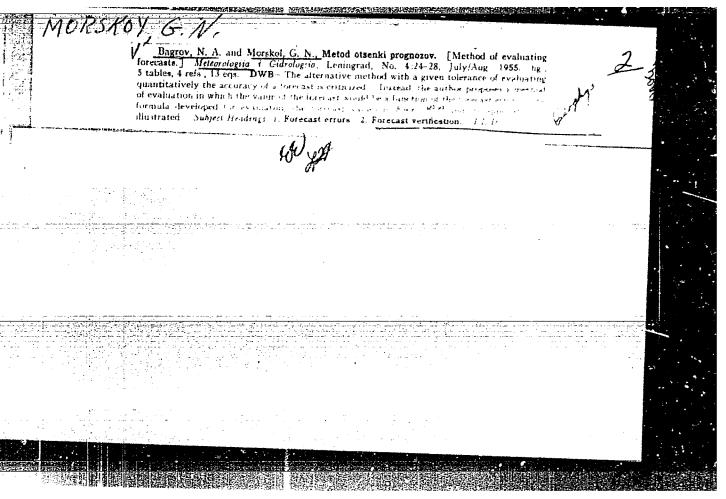
MORSKOY, G. I.

"Application of Extrapolation to the Forecasting of Circulational Conditions in the Atmosphere".

Trudy Tsentr. in-ta prognozov, No 35, pp 27-40, 1954.

Solution of differential equations with constnat coefficients which are constructed for the pressure of the air is sought by the author in the form of a certain double Fourier series involving the Legendre polynomials as coefficients. Considering the baric field at sea level and assuming the coefficients of expansion in spherical functions possess the necessary parameters. On the basis of data for one year from 9 May 1950 to 8 May 1951 he studies 24 coefficients. The author evaluates the proposed method as the most effective procedure for testing and (RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956



14-57-6-12084 Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,

p 60 (USSR)

AUTHOR:

Morskoy, G. I.

TITLE:

Theoretical Analysis of Synoptic Processes (K postanovke zadachi o teoreticheskom analize sinopticheskikh protsessov)

PERIODICAL:

Tr. Tsentr. in-ta prognozov, 1956, Nr 46 (73), pp 3-39

ABSTRACT:

An analysis of the results obtained by empirical studies of pressure changes at different altitudes has shown that the atmospheric layers lying higher than the homogeneous atmosphere exercise greater influence on the pressure change in the troposphere than do the troposphere layers themselves. About 30 percent of pressure changes on earth are caused by occurrences which bring about density change in the layer from O to 3 km, 60 percent of pressure changes are caused by

Card 1/4

Theoretical Analysis of Synoptic Processes (Cont.)

factors in the layer lying more than 8 km high, while the layer from 3 km to 8 km affects the pressure changes at the earth's surface in only 10 percent of the cases. Therefore, when the relationship between activities of the low layer (0 to 8 km) and the high layer (above 8 km) is unknown, correct pressure change forecasting for the low layer by analyzing synoptic maps can be accomplished only 40 percent of the time. Statistical analysis of observations has shown that the processes acting in the low and high layers tend to compensate one another. Lack of observational data for the high layer processes has made direct investigations of this zone very difficult; therefore, a study of the relationship between occurrences in the high and low layers is pressingly needed. The "isopycnic law" formulated by Wagner as early as 1910, has been used to establish this link. It states that density is constant and is equal to 525 g/m3 in the homogeneous atmospheric level (8 km) during every season of the year and over every geographical point. Numerous studies have shown that, on the average, this law works very well for both the intermonthly and the interdiurnal density changes. Under a

Theoretical Analysis of Synoptic Processes (Cont.) 14-57-6-12084

parameter with the latitude is very important. For this reason, pressure falls when the motion is directed to the north and increases when it is to the south (this conclusion, as well as the previous one, is predicated on the isopycnic law). This tends to make ridges and troughs shift from west to east. The author emphasizes that the influence of vertical velocity distribution in the troposphere and the deviation of wind from the geostrophic must will explain cases where a low pressure area is superimposed upon a high pressure area, and vice versa. Entropic factors also receive Card 4/4.

A. B.

. Mars Kly, PHASE I BOOK EXPLOITATION 361 Moscow. Tsentral'nyy institut prognozov. Trudy. vyp. 49: Voprosy dologosrochnykh prognozov (Transactions. v. 49: Problems in Long-range Forecasting) Leningrad, Gidrometeoizdat, 1957. 287 p. 1,250 copies printed. Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR. Ed.: (title page): Morskoy, G.I.; Ed. (inside book): Shatilina, M.K.; Tech. Ed.: Braynina, M.I. PURPOSE: The collection of articles is intended for specialists in the field of weather forecasting, especially those interested in long-term prognostication. COVERAGE: The articles in this collection illustrate the present position of long-range weather forecasting. The problems discussed include the formulation of large mid-monthly Card 1/ 20 4

Problems in Long-range Forecasting

361

temperature anomalies, the analysis of cycles and anti-cyclcogenesis in meridional circulation and factors causing the appearance of autumnal frosts together with possibilities for forecasting them.

TABLE OF CONTENTS:

Morskoy, G.I.; Semenov, V.G.; and Kats, A.L. Formation of Winter Months

The authors define the term anomaly (or a larger anomaly) as a departure from a certain average climatological pattern, or, in other words, from the average temperature during a given period. The authors survey the occurrence of mean temperature anomalies during three winter months (December, January, and February) and analyze possibilities of forecasting such anomalies for one month in advance. In general, wide departures

Card 2/20

4

BAGROV, H.A., red.; KOESTOY. G.I., red.; PISAREVSKAYA, V.D., red.; BRAYNINA,
M.I., tekhn.red.

[Weether forecasting; collection of translated articles] Voprosy
predskazaniia pogody; sbornik perevodnykh statei. Leningrad,
Gidrometeor. izd-vo, 1958, 439 p.

(Weather forecasting)

(Weather forecasting)

MURSKUT, 15-1 3(7)HEADER TO HOOK EXPLOITATION 30V, 3.149 Moscow. Tsentral'nyy institut prograzov Voprosy dolgosrochnykh prognozov pogody (Problems in Long-Renge Weather Worecasting) Moscow, Gidrometeoizdat (otd.), 1959. 62 p. (Series: Its: Trudy, vyp. 85. Errata slip inserted. 900 copies printed. Sponsoring Agency: JSSR. Sovet ministrov. Glavnoye upravleniye gidrometeorologicheskoy sluzhby. Ed. (Title page): G. I. Morskiy; Ed. (Inside book): L. V. Blinnikov; Tech. Ed.: T. Ye. Zemtsova. PURPOSE: This issue f the Institute's Transactions is intended for scientific research and field workers in meteorology as well as for advanced students in schools of higher education. COVERAGE: This is a collection of three articles in synoptic and reneral meteorology. Two of the articles deal with problems concerning the general circulation of the atmosphere while the third discusses the matter of forecasting mean 7-day pressure maps. References accompany each article. Card 1/3

Problems in Long-Range (Cont.)

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TABLE OF CONTENTS:

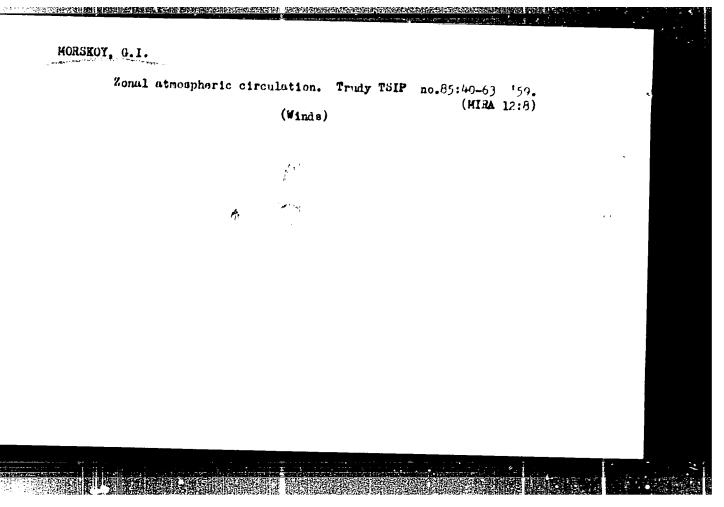
Bayev, V. K. On the Theory of the General Circulation of the Atmosphere

The author attempts a theoretical description of the general circulation in
the most general statement of the problem. This entails, first of all, the
consideration of nonlinear and viscosity members in differential equations,
and also the consideration of the nonadiabatic effects which play a basic
role in the general circulation of the atmosphere. This work differs from
others on the problem insofer as the author pays stricter attention to the
dependence of the thermal properties of the underlying surface on geographic
coordinates. Computations are introduced to show that temperature in time
and space as well as all elements of motion may be determined when the initial
distribution of meteorological elements and the heat influx from the Sun, as
a function of time, are known. There are 4 references: 3 Soviet and 1 English.

Zverev, N. I. Forecasting a Mean AT 500 Seven-day Chart
Since most extended forecasts do not deal with weather conditions to be expected in the week immediately following the date of chart compilation, the author presents a statistical method of compiling mean 7-day charts. The author works on the basic premise that the development of synoptic processes in the future is completely determined by the history of synoptic processes over a given region. There are 7 references: 4 Soviet and 3 English.

27

Card 2/3



APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"

S/050/60/000/010/002/003 B012/B063

AUTHOR:

Morskoy, G. I.

TITLE:

Experience Gathered With Forecasting on the Basis of H 500 Charts of Monthly Means

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 10, pp. 9 - 13

TEXT: The author points out that the weather service of the USSR has not yet started a systematic compilation of forecasts of the monthly means of the pressure field. In 1957, the author of the present article published (Ref. 6) a theory of the compilation of forecasts. The results of the verification of this theory are given in the present article. First, the author gives a general description of this theory, confining himself to an estimate of forecasts. Some estimates are studied, and their advantages are discussed. At present, the following two estimates are being used:

formula (5): $r = \frac{5}{5 + 5}$, and formula (6): $r = \frac{5 - 5}{5 + 5} = 2r - 1$

s is the total area of the regions where the forecast was found to be Card 1/4

Experience Gathered With Forecasting S/050/60/000/010/002/003 on the Basis of H₅₀₀ Charts of Monthly Means B012/B063

correct with respect to its sign. 8 is the total area of the regions where this was not the case. In Ref. 3. formula (9):

 $f = e^{-k\frac{\sqrt{5}}{5}}$

was given for estimating f. This was derived from general conditions 6 is the standard deviation mentioned in Ref. 2. In the present paper, k = 0.75 is assumed. The forecasts obtained for one or the other f-value may be seen from a comparison between the actual and prognostic charts of anomalies in February and March, 1955 (cf. Ref. 9). A similar estimate was published in Ref. 1:

formula (10): $\gamma = e^{-kz}$, where z = F(A)

formula (10): $\varphi = e^{-RL}$, where z = F(A) - F(A) prognostic, and F(A) is a function of the distribution of the prognostic quantity A. In order that the mean estimate of the random forecasts becomes equal to $\varphi = 0.5$, k = 32.286 must be assumed. Thus, the authors calculated four estimates for each of the 12 prognostic charts: r, φ , f, and φ . Table 1 gives these values in per cent of the highest estimates.

Card 2/4

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Experience Gathered With Forecasting \$/050/60/6 on the Basis of H₅₀₀ Charts of Monthly Means B012/B063

s/050/60/000/010/002/003 B012/B063

Estimate	I	II	111	IV	V	VI	VII	VIII	IX	X	ΧI	XII	
9	-9,6	74 2	51,5	21,6	0,2	22,2	29,8 68.8	-1,6 65,4	9,6	61,0	65,9	64,5	17,0

This table indicates that these forecasts are undoubtedly more useful than standard forecasts, and all the more compared to random forecasts. This estimate is closely related to that obtained from formula (6). They give only a qualitative estimate of forecasts (with respect to agreement or non-agreement of the signs of anomalies). The error is taken into account in the estimates f and ψ . It is pointed out that a certain agreement between all estimates may be assumed in advance. Yet it is so far not possible to specify the advantages of the various estimates. In addition to the estimates for the latitudinal zone of the entire hemisphere (Table 1).

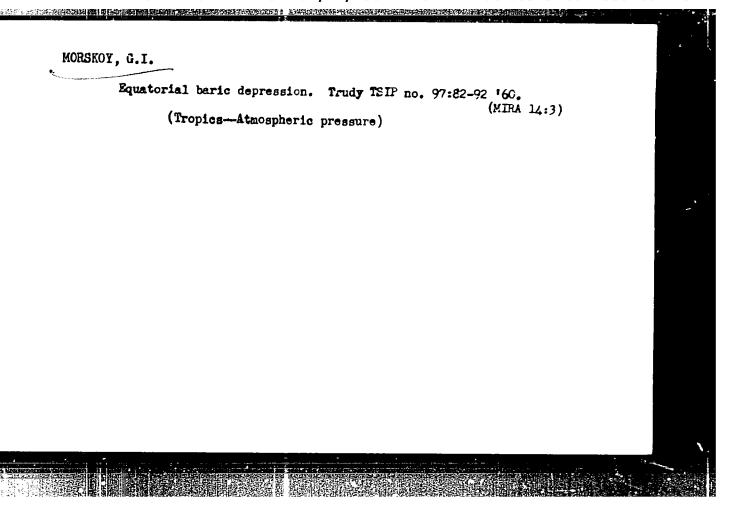
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4000年代的部門1861日間的利用時間與各種的研究等的影響的影響的形式的形式。 安全进行的现在分词 在在这一个世纪,但可以不知识的,可以是是是一种的

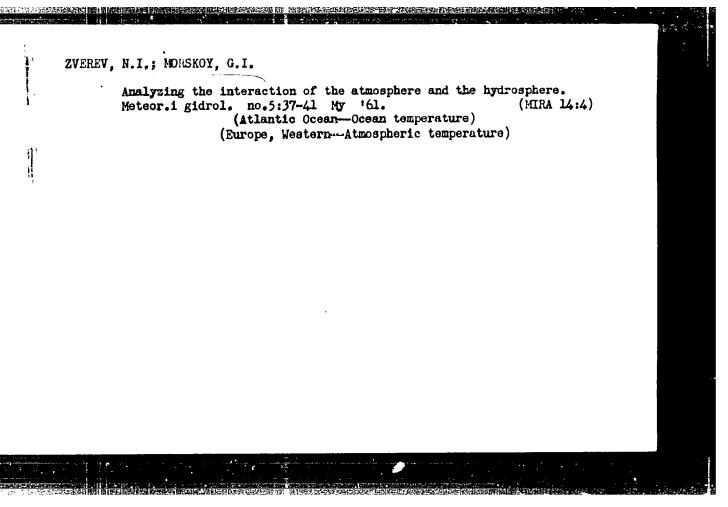
Experience Gathered With Forecasting on the Basis of H₅₀₀ Charts of Monthly Means S012/B063

estimates are also given for the European part of the Soviet Union and West Siberia (Table 2). There are 2 tables and 10 references: 9 Soviet.

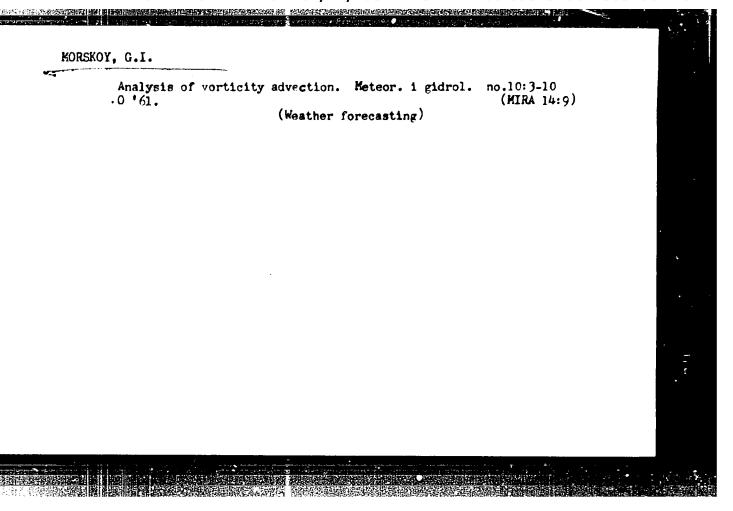
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S/169/62/000/001/060/083 D228/D302

AUTHOR: Morskoy, G. I.

TITLE: Statistical estimation of the parameters of prognostic

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equations

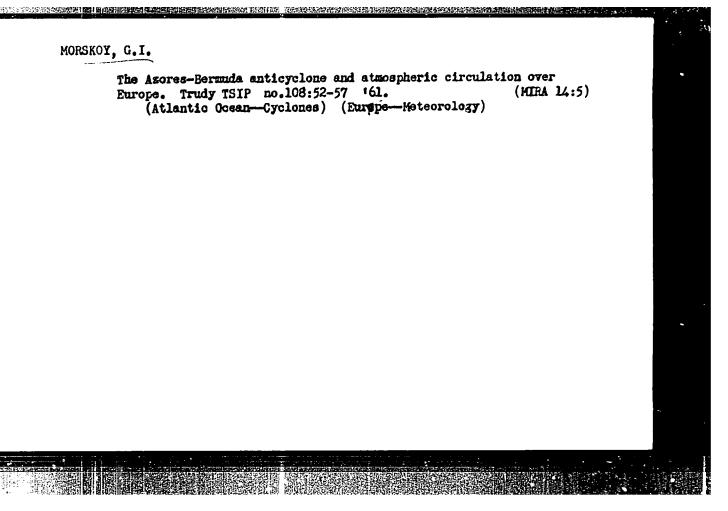
PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 57, ab-

stract 1B366 (Tr. Tsentr. in-ta prognozov, no. 104,

1961, 118-122)

TEXT: In the example of a prognostic equation for the atmospheric pressure p it is shown that the admissibility of various equations — which come into being on the derivation of prognostic equations — depends on the degree to which certain groups of quantities are mutually compensated and on the provision made for the boundary conditions, and not just on the formal calculation of the orders of magnitude. The simplifications involve the necessity of determining the numerical values of the parameters by statistical means. / Abstractor's note: Complete translation. /

Card 1/1



APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135310011-5"

Card 1/4

2003年1905年1915日 1915日 1

ACC NR. AP6034030 SOURCE CODE: UR/0050/66/000/010/0031/0035 Morskoy, G. I. (Candidate of physico-mathematical sciences) AUTHOR: ORG: Hydrometeorological Scientific Research Center, SSSR (Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR) TITLE: Experiment in calculating the advection of the vertical component of eddy velocity SOURCE: Meteorologiya i gidrologiya, no. 10, 1966, 31-35 TOPIC TAGS: weather forecasting, atmospheric turbulence, eddy velocity, weather mays, wind velocity ABSTRACT: The geopotential H is analyzed on the basis of maps of the 500-mb surface for 15 and 16 April 1958. The expression for the adveca tion of the vertical component of eddy velocity Λ_ζ is $A_{\zeta} = a \left(\frac{\partial \Delta H}{\partial \theta} \frac{\partial H}{\partial \lambda} - \frac{\partial \Delta H}{\partial \lambda} \frac{\partial H}{\partial \theta} \right).$ (1)where $\boldsymbol{\theta}$ is the complement of the latitude and $\boldsymbol{\lambda}$ is the longitude. coefficient where r is the radius of the earth and ι is the Coriolis parameter. Λt

UDC: 551,509,313

ACC NR: AP6034030

45°N, $a=3.27\times 10^{-10}~cm^{-2}~sec^2$. A conversion factor $(0.98\times 10^6)^2$ is added for conversion to the CGS system, since H is measured in geopotential decameters. The factor $1/r^2=2.458\times 10^{-16}~cm^{-2}$ is introduced since, in calculating the Laplacian ΔH the radius of the earth is taken as unity. Λ_ζ has the dimensionality of sec^{-2} . The quantity a, converted to days, is $\widetilde{a}=5.76\times 10^{-6}~days^{-2}$. To avoid subjectivity in calculating Λ_ζ , the following scheme was used to analyze the Λ_ζ field. The expression for the H field is expanded into a series in spherical functions

$$H = \sum_{n=m}^{N'} \sum_{m=0}^{6} \left(A_n^m \cos m \lambda + B_n^m \sin m \lambda \right) P_n^m(\theta). \tag{2}$$

where P_n^m (0) are the Legendre polynomials. The expansion is limited to the Northern Hemisphere, and the method of summing was determined accordingly. N' was chosen so that the four values of n would correspond to each value of m, the sum (m+n) to be an even number, i.e., m = 1 corresponds to n = 1, 3, 5, 7, etc. In expansion of (2), the Laplacian for H is of the form

$$\Delta H \simeq \sum_{n=m}^{N'} \sum_{m=0}^{n} \left(C_n^m \cos m \lambda + D_n^m \sin m \lambda \right) P_n^m(\theta), \tag{3}$$

Card 2/4

ACC NRI AP 6034030

where

$$C_n^m = -\frac{n(n+1)}{r^2} A_n^m; \quad D_n^m = -\frac{n(n+1)}{r^2} B_n^m.$$
 (4)

The right-hand side of (1) shows that Λ_{ζ} can be calculated graphically by plotting values of ΔH along the H = const isolines. The coefficients with relatively small values of m and n make the principal contributions when the expression for the H field is expanded. In this case, the H and ΔH fields should have similar configurations (the Jacobian (1) approaches zero). Numerical values were found for Λ_{ζ} . Explicit expressions for each term of the right-hand side of (1) were found by differentiating (2) and (3) in respect to λ and 0. These terms were computed for 240 points north of 40°N, spaced every 15° of longitude and 5° of latitude, and the results are charted. Λ comparison of this chart for 15 April 1958 and one showing the diurnal change in δH from 15 to 16 April 1958 showed very little correspondence of the isolines --perhaps indicating the poor value of Λ_{ζ} as a forecasting factor. The similarity index ρ (the ratio of the difference between the number of points having data of the same sign and the number of points with a different sign to the total number of points) was calculated to obtain an objective evaluation. The index was computed for the zone from 40 to 70°N (7 latitudes) and every 15° along the parallels. Cases in which

Card 3/4

one of the compared quantities vanished (20) were excluded. The signs of 3H/3t and A_C differed at 79 points and were alike at 69 points. Thus p = 10/148 ≈ 0.067. When p was calculated from the formula $\frac{dp}{\partial t} \sim (p, H).$ (5)

where p is the pressure at sea level, and the right-hand side of (6) is cf the Jacobian type (1), and using the same area and conditions, p = 0.085. Taking their smallness into account, these values are quite similar. Orig. art. has: 4 figures and 6 formulas. [W.A. 50]

SUB CODE: 04/ SUBM DATE: 20Apr66/ ORIG REF: 005

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MCHSKOY, K. (Dusprodzerzhinsk, Duspropetrovskaya oblast').

At construction sites on virgin lands, Prof.-tekh. obr. 15 no.4:
22 Ap '53.

1. Direktor stroitel'noy shkoly No.2.

(Kazakhstan-Construction workers)
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这么可能让我们**是时间的时间间的对象。在"我们都用来了到**的这种特殊的传统在心理,但这样的对象的对象的对象的对象的是是是是是这种的一种的,这种的是是是是一种的人, NICKSALL, K. 27-4-15/25 AUTHOR: Morskoy, K., Director of Building School 2 (Dnepropetrovsk Region) TITLE: Virgin Soil Developments (Na stroykakh tseliny) \mathbf{on} PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1958, # 4, p 22 (USSR) ABSTRACT: The Dnepropetrovsk School has twice helped out in Kazakhstan, once, in 1956, in developing the virgin soil area, and in 1957 in building for the Kokchetav Trust. A group of carpenter-students received 26,888 rubles in wages. ASSOCIATION: Stroitel'naya shkola No. 2 (Dnepropetrovskaya oblast') (Building School Nr. 2, Dnepropetrovsk Region) AVAILABLE: Library of Congress Card 1/1

JEZEWSKI, M.; MORSTIN, T.; WIERZBICKI, M.

On the immersion method of measuring the dielectric permittivity of solids, as compared to other methods. Acta physica Pol 25 no.2:187-192 F 164

1. I Institute of Physics, Academy of Mining and Metallurgy, Krakow.

28 (5) SOV/32-25-8-33/44 Mortikov, V. D., Prosvirin, V. I. AUTHORS: Plastic Deformation With Determination of the Resistance of TITLE: Constant Size of Impressions the Instrument PMT-3 at Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 999-1000 (USSR) PERIODICAL: A new method was developed for the determination of the ABSTRACT: plastic deformation at a constant size resistance against of the impressions (I) to be carried out with the conventional instrument PMT-3. The microhardness of the sample at various stresses (S) is first measured on the indentor. 20-30 and more measurements of the diagonal (D) of the (I) are made and the arithmetical mean value of the (D) of each (S) is being determined. The obtained data is used for making an auxiliary diagram (AD) which illustrate the dependence of (D) from the concerned (S). The (D) of one (I) is then chosen and from the (AD) recorded for the various conditions of the alloys, the value of (S) corresponding to this (D) is determined. The obtained value of (S) serves for the recording of a new function between the (S) and any parameter (temperature, time etc), which characterizes the condition of the alloy. The susceptibility of the investigated alloy to surface strengthening can be evaluated Card 1/2

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Determination of the Resistance of Plastic SOV/32-25-8-33/44
Deformation With the Instrument PMT-3 at a Constant Size of Impressions

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from such a group of curves which refer to the volume of the displaced metal, after the disturbance of the coordinates' equidistance. The authors investigated according to this method the heterogenization of the solid solution of the alloy EI617 at a heating to 1200° (during 1, 3, 6, 12, 24, 36, 48 or 96 hours) and the subsequent tempering in water (+ 20°). Various (S) from 20 to 100 g were applied. The measuring results proved that heating to 1200° has a great influence on the strength needed for the formation of a constant plastic deformation of the alloy. A continuous change of the solid solution's condition occurs at high temperatures, as the resistance against plastic deformation changes. There are 4 figures.

Card 2/2

20963

S/197/61/000/002/003/005 B117/B212

18.7520 1145, 1555

AUTHORS: Prosvirin, V., Mortikov, V.D.

TITLE: Structure of a compounded solid solution that has been

heated to high temperatures

PERIODICAL: Izvestiya Akademii nauk Latviyskoy SSR, no. 2, 1961, 65-70

TEXT: The structure of a solid solution has been investigated on a nickel-base alloy that has been heated to high temperatures and consisted of the following 8 elements: 0.08% C, 14.8% Cr, 1.93% Ti, 1.85% Al, 3.65% Mo, 5.71% W, 0.32% Mn, 0.14% V. All specimens have been annealed at 950°C for 7 hours and subsequently at 850°C for 10 hours. After the treatment the structure of the alloy consisted after such treatment of a solid γ-solution and small amounts of secondary phases. The effect of a continuous heating on the internal structure of the solid solution has been studied at 1200°C in intervals of 1, 3, 6, 12, 24, 36, 48, and 96 hr and at 1300°C in intervals of 1, 3, 6, and 12 hr. The heterogeneity of the solid solution which appeared due to heat treatment has been estimated according to microhardness and the change of the crystal

Card 1/4

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S/197/61/000/002/003/005 B117/B212

Structure of a compounded ...

也不是是我们**是我们的,但我们们的对象,我们就是我们的对象的,我们**

lattice parameter. In order to estimate the microhardness, the method of statistical evaluation of measurements has been applied. The microhardness has been measured with an instrument of the type NMT-3 (PMT-3) using a load of 50 grams. It has been found that the rules governing the changes of frequency response curves of the microhardness distribution, which are caused by high temperatures, may be observed even in more complicated systems than C - Fe - Cr - Ni. The frequency response curve which characterizes the distribution of the hardness level of the ground state (7 hours at 950° C + 10 hours at 850° C) has a maximum at 385 kp/mm^2 and represents a normal form of the statistical distribution of levels of microhardness. The heterogeneity of the phases during the ground state of the alloy is characterized by high values on the frequency response curve, which correspond to the maximum of the curve. Heating to temperatures up to 1200-1300°C brings about a softening of the solid solution, and at the beginning of the heating process the frequency response curve will be shifted toward smaller values of microhardness. Heating for more than one hour brought about three characteristic changes of the frequency response curves: 1) Occurrence of a second and a third maximum; 2) change of the curve width; 3) shift of the frequency Card 2/4

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Structure of a compounded ...

response curve with hardness. The occurrence of several maxima may be explained by the existence of several qualitatively different types of concentration complexes. The change of width of the frequency response curve may characterize the degree of inhomogeneity of the solid solution. A shift of frequency response curves toward higher values of microhardness is connected with a redistribution of alloying elements. While this takes place, conditions are established in certain microvolumes, which are very suitable for the origin and growth of new phase seeds. It has been shown that a number of alloying elements will escape from the solid solution into the zones of origin of concentration complexes if the heating to high temperatures is continuous. The diffusion mobility of these atoms is largely restricted. Their concentration in certain volumes influences the change of the crystal lattice parameter of the basic solution. Measurement of the lattice parameter $(K_{\mathbf{x}})$ of the solid solution in the alloy to be investigated at 20°C has shown that the maximum value of the parameter corresponds to a heating of one hour at 1200°C, if the main portion of the secondary phase has been dissolved

in the solid solution. Any longer heating will bring about a continuous

Card 3/4

20963

S/197/61/000/002/003/005 B117/B212

Structure of a compounded ...

decrease of the parameter. It seems that a certain portion of the elements which expand the crystal lattice of the solid solution escape from it and concentrate in zones of accumulation. There are 8 figures and 11 Soviet-bloc references.

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Card 4/4

MJW/JD/HW/NLK EMT(m)/EWA(d)/EWP(t)/EWP(b)ASD(m)=3L 13048-65 Pad ACCESSION NR: AT4046836 \$/0000/64/000/000/0159/0165 AUTHOR: Prosvirin, V./I.; Hortikov, V. D. B TITLE: Variation in properties of alloy E1-617 during prolonged high temperature heating SOURCE: AN SSSR. Neighnyky sovet po probleme zharoprochnykh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 159-165 TOPIC TAGS: heat resistant alloy, alloy hardness, nickel alloy, alloy plasticity, alloy strongth / alloy E1-617 ABSTRACT: Most alloys consist of many components, one of more of which may have limited solubility. During high-temperature annealing, however, the excess phases dissolve and unsaturated solid solutions are formed with a uniform chemical composition. During thermal diffusion at temperatures significantly above the solubility limit, stable associations of heterogeneous atoms arise which show a capacity for growth and are not disrupted by the thermal vibrations of the atoms. This high-temperature state formed during annealing or tempering of heat-, asistant alloys determines their subsequent serviceability. The present authors therefore investigated the behavior of the solid solution and the thermal variations in the

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properties of alloy E1-617 which contains, besides NI: 0.08% C, 14.87% Cr, 1.85% A1, 1.93% T1, 5.71% W, 3.65% Mo, 0.6% SI and 0.14% V. The initial state of the alloy was produced by double annealing: at 9500 for 7 hours and at 8500 for 10 hours. The high-temperature instability of the alloy was determined by heating at 12000 for 1, 3, 6, 12, 24, 36, 48 and 96 hours, and at 13000 for 1, 3, 6 and 12 hours, after which the samples were tested for heterogeneity of the solid solution under a load of 50 g, as well as from 20 to 100 g. After the samples were hardened at 1190 and 1050C and tempered at 800C (16 hours), the fatigue strength was determined from the time required for failure at 32 kg/mm2 and 800C. Analysis of the results showed that high-temperature heating at 1290-1300C produces weakening of the solid solution. The microhardness begins changing after 3-6 hours of heating, when some of the alloying elements pass from the solid solution into the concentration complex formation. This changes the characteristics of the crystal lattice of the basic solid solution. The results of chemical analysis of anode coatings precipitated in electrolyte 18 show that the quantity of concentration complexes in the alloy structure increases in direct proportion to the duration of heating at 12000, while the chemical composition differs significantly from the phase composition resulting after common heat treatment. The data obtained show continuous growth of the anode coating as time passes. A graph relating the force required to extrude a constant volume of the alloy to the duration of heating at 12000 showed an initial drop in hardness followed by an increase and 2/3

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to a maximum at about 20 hours. The results of mechanical tests show that when the duration of primary hardening is increased from 2 to 12 hours at 11900, or up to 5 hours during the second stage of hardening, the ultimate strength is decreased from 115 to 75 kg/mm², the relative elongation dreps from 25 to 2%, and the contraction at break changes from 25 to 3-5%. Further prolengation of high-temperature treatment is east to restoration of the machanical properties of the alloy. A slight increase in impact toughness (0.5 kg-m/cm²) is observed when the duration of heat treatment at 11900 is increased from 2 to 5 hours. The stress-rupture strength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96 hours. The restrength drops only 13% observed when the duration of heat treatment is 96

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